Notebook, N-87-06-01

This notebook, which covers the period June-August 1887, is a continuation of N-87-05-13. It was used by Arthur C. Payne for notes on H. De Coursey Hamilton's filament experiments. There are also notes regarding the roasting of iron ore for the magnetic separation process. The spine is labeled "38." The book contains 10 numbered pages followed by 3 unnumbered pages.

H.H. X #5. 6/1/87

Sent Lawrence 11 preliminarized Cartons in forms marked H.H. #5 to be run through final process. Fibres had been subjected to temp. of 600° Fahr, varied in 1 hr. in sealed tube containing mercury. Cartons were still preliminarized - were dull black & somewhat rotten.

6/4/87

Received of Lawrence 11 forms containing cartons of above order. Found 3 broken. Sent 8 cartons as Ord. H.H. #5 to Hanson.

X

H.H. #4. 6/1/87. 2

Received fine Sawan in forms
18 cartons marked Cd. H. #4, (see
Hamilton's memoranda),
Sent them to Hanson.
Cartons looked fine, showing
smooth light silvery appearance.

X

Took out of tube, put up by Hamilton, preliminarized carbon ~~but~~ mixture had been treated in equal parts by weight of asphalt + linseed oil + subjected to gradual rise of temp. from 75° to 600° in 8 hours (Taby). Formed 7 nut & 20 bolts in forms. Carbons were washed in benzol, dried, put in forms marked H.H.V. #4 + sent to Lawson for final carbonization. Here well preliminarized, smooth + black.

6/7/87. Received of Lawson above ord. + sent 10 carbons to Hanson to be run ~~through~~. Were a smooth shiny gray. Looked good.

~~[illegible]~~

2487

20-oz. 16 C.P. bamboo filament in 20-oz. forms, sealed in glass tube containing Wood-tar (or Pine Tar). Put in sand-bath in furnace chamber + 1 hr. raised temp. from 70° to 600° Fah. Heat turned off + as tube was cooling, sealed tip cracked off, allowing gas + tar to escape. At same time, tube cracked in middle beneath sand, allowing tar to be forced out + sand to enter. As cooling went on, formed forms almost clear of tar + fibres nearly dry. To cleanse them of the little tar adhering to them soaked them in Benzol. When ~~dried~~ dried fibres were

1887

light brown in color + when broken split up into elementary fibres, the cementing substance being entirely destroyed by the process. When pulled apart or crushed the fibres broke up into a fine woolly mass - very soft + ~~to~~ all appearances, first rate stuff out of which to make paper.

Not sent to Lawson, or ~~H.H.K.~~ Stebbins ~~mass~~, as result showed the process to be M.J. for carbonization.

16 3 24

20 - reg. 16 C.P. ~~Specimens~~ in
reg. forms, sealed in glass
tube containing Carbolic Acid,
Put in Sand bath in furnace chamber
& in 1 hr. raised in temp. from
75° to 600° Fahr. Heat turned off
& tube allowed to cool down
slowly. On testing out fibres
found that they had been acted
on in much the same way, as
those treated in Hard tube, the
cementing substance being dis=
solved from between elementary
fibres, which when rubbed be
crushed, became a woolly mass
not quite so well done as in
Hard tube. Not sent to
Lawson.

6/10/84

Exp. of 16. C. P. Filaments in sealed glass tube containing powdered Rosin. Put in Sandbath in furnace chamber + in 1 hr. raised in temp. from 75° to 600°Fah. Taken out + before rosin cooled enough to solidify, tip broken off – then tube broken + fumes put in boiling Linseed Oil. When taken out, found to have been acted on in same way as those in Wood-tar + Carb. Acid, but elementary fibres seem to be more rotten + not so soft + woolly when rubbed.
Not sent to Lawson wt 8 hr. tube run.

H. V. #3

Received 9 forms from Lawson containing castings that had previously been treated by Hamilton (see Hamilton note) Sent 9 to Hansen as Cra. H. V. #3.

July 30th 07

No 2

Roast Chalcopyrite 13 minutes with 3 burners it was very magnetic before roasting but very much more so afterwards. Color. redish brown.
After roasting took out what was magnetic = Magnetic 98 - Non. Magnetic 2.
The 2 per.ct. left was of a lighter shade than than the magnetic

August 3d 07

High ore. No 3 roasted about 25 minutes The more it was roasted the more magnetic it become. Color light brown very light color — 3 burners. —

High ore — No 4 - roasted 16 minutes. 3 burners sheet iron pan - not covered. Color same as No 3.

Aug 4th 19

Nip. No. 8. Roasted with three burners in shut iron pan not covered roasted 1 hour not magnetic it was very light before roasting - it was the waste or soft part of the ore it wasn't magnetic to start with and after roasting an hour gave it up color a light chocolate

Aug 4th 19

Chalcopyrite roasted 15 minutes No. 0. dark brown took out the most mag of this

No. 00

Chalcopyrite roasted 5 minutes. Color Grayish Black

Aug 4-87

Hips - No. 6. Roasted to a redish brown. 3 burners very magnetic

Hips - No 7. Roasted 1 hour tested every five minutes with magnet found that it was the most magnetic at the finish color a redish brown. - used 1 burner and air.
In pouring out one after while it is hot it runs out like water - spreads over the paper it is poured on.

Aug 5th 87

No 8. Hips roasted 2 hours Same as the above only was more magnetic which goes to show that it can be roasted longer

any length of time.

Order Numbers

H. H. #4. – Eg. phi by negt. carbl & L. Cil, Page 2

H. H. V. #4 – " " " " " " " " 3

H. H. #5. – Mercury ——— " 1.

H. V. #3 – Sea (Stamp. notes) " 8.